US Army Corps of Engineers®

The Corps Environment

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Environmental operating principles address Corps future

By CANDICE WALTERS
Corps Headquarters

The U.S. Army Corps of Engineers is building for the future when it comes to caring for the environment.

That's the message Lt. Gen. Robert Flowers, 50th Chief of Engineers, is sending as he awaits the final draft of a set of environmental operating principles.

In April at the USACE Environmental Development Workshop, Lt. Gen. Flowers called for a dialogue on developing environmental operating principles for the Corps.

"My intent is to develop doctrine that will encompass all USACE environmental operations, both civil works and military programs," he said at the conference. "Because we have not had a unified environmental strategy, I believe that we may have missed opportunities that we could have capitalized on. Now we will apply synergy at all levels of the Corps and develop a global strategy for the environment."

Addressing the Corps' Emerging and Senior Leaders Conference in August, Lt. Gen. Flowers noted that a March survey showed that 60 percent of the American public believes the government should take care of the environment as one of its priority missions.

"The Corps of Engineers' mission must be changed to reflect the requirements of the people. It's important that we establish these environmental operating principles. Our challenge is to set the example.

"We need to be out front - showing how it's done," he said. And the first step is to develop a set of operating principles that are fundamentally sound, said Robert Andersen, USACE Chief Counsel.

Andersen, Pat Rivers, head of the Military Programs Environmental Division, and Dwight Beranek, chief of the Civil Works Engineering and Construction Division, have been working with a multi-functional Headquarters-level strategy team that has been drafting the environmental operating principles and the supporting doctrine.

The team, a subgroup of the Issues Management Board, has been developing the draft principles in context with the four pillars of the Army Environmental Strategy (Into the 21st Century), the Army Environmental Campaign Plan & Operational Directive, the National Environmental Policy Act, the authorities given the Corps through the Water Resources Development Acts and the more than 70 environmental statutes with which the Corps complies.

"Much of what these principles reflect is what we have been doing in the environmental arena or should be doing currently," Andersen said.

"By establishing these as a baseline, we set the foundation for developing more detailed environmental doctrine and operating principles for all our programs. And that is new."

Seven environmental operating principles have been drafted.

One of the principles establishes a goal of trying to achieve environmental sustainability, which is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. "Whether it's construction, environmental restoration, operating a water resource project or permitting; we're going to perform work in a manner that enhances environmental sustainability," Andersen said.

Other principles reiterate "our responsibility under the law to ensure that decisions are made with consideration to the environment," he said. "They talk about the what and the how part of the equation of striving to achieve environmental sustainability.

"We want to integrate these principles into the Project Management Business Process. Once they become part of our everyday life, environmental considerations and issues will be at the forefront of everyone's thoughts as decisions are made," he said.

After the draft environmental operating principles and supporting doctrine are approved, they will be staffed throughout USACE and with its partners for comments and implementation ideas. The team will ask field offices for help identifying ways the principles can improve Corps procedures and products.

"Our hope is that these principles will cause all of the Corps staff, at all levels, to consider environmental issues at the earliest possible point in decision-making and planning," Andersen said. "These environmental operating principles will be directional lights for all of our programs."

The draft principles and supporting doctrine will be posted on the Internet at www.usace.army.mil after they are approved by Lt. Gen. Flowers and the Issues Management Board.

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US Army Corps of Engineers®

The Corps Environment

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Energy Savings Performance Contracts provide environmental benefits

By JEAN PAVLOV
Huntsville Center

The original intent of the Energy Savings Performance Contracting (ESPC) program was to reduce energy demand, and thus save federal dollars at government facilities; but the program's goals have resulted in an additional benefit. Reducing energy demand also reduces environmental contaminants.

The ESPC program is a process in which a contractor funds and provides infrastructure improvements and energy-saving equipment and maintains them in exchange for a portion of the energy savings generated.

The ESPC program helps the federal customer meet congressionally imposed energy regulations, again without significant investment in dollars. Probably the single most important factor is that the ESPC contractor is paid from actual savings his actions generate.

Environmental savings are the direct result of reductions on the demand side of the energy usage being abated. If the demand for the energy is reduced, the requirement to produce that same amount of energy is also reduced. Therefore, there are significant reductions in the environmental pollution associated with the production of energy that is now no longer needed. The greater the demand reduction; the greater the associated environmental pollution reduction.

The ESPC program uses the Renewables and Energy Efficiency Planning (REEP) model to analyze the economic potential for investment in energy efficiency and renewable energy technologies.

REEP determines the amount of air pollution offset by implementing each conservation project. The amount of pollution not created by saving energy is a function of several factors: the annual energy savings, how the energy is consumed (e.g., the combustion efficiency of a piece of equipment), and if electricity is involved, how the electricity is generated.

Total reduction of environmental contaminants

Sulfur Oxides	**1,105 Tons**
Nitrogen Oxides	**399 Tons**
Carbon Dioxide	**111,612 Tons**
Particulates	**57 Tons**
Hydrocarbons	**2 Tons**

The REEP program is a stand-alone energy-management software developed by the U.S. Army Construction Engineering Research Laboratories (CERL). The REEP software and documentation is obtained directly from CERL. The need for a tool such as REEP continues as Department of Defense (DoD) energy, water, and pollution reduction targets continue and increase.

REEP was developed in 1992 to provide national DoD energy reduction targets and cost estimates to Congress. Motivation for the DoD to address energy conservation originated from the recognition that significant dollar savings could be achieved though the improved operations, maintenance, and energy savings retrofits to existing facilities. A method of identifying potential energy saving candidates had to be developed before a strategy for investment in energy conservation retrofits could be implemented.

"The figures Huntsville currently has concerning their total environmental savings are calculated by the REEP program by using a series of algorithms in conjunction with installation specific data on energy conservation potential," said Roch Ducey, Principal Investigator, Energy Branch at CERL. Of significant interest is the carbon dioxide savings. This is a major greenhouse gas and atmospheric carbon is of key interest when determining overall environmental savings.

"The savings associated with Energy Savings and Performance Contracting are usually measured in MMBTUs and dollars," said Sally Parsons, Huntsville Center's ESPC Program Manager.

"Measurement and verification guidelines published by the Department of Energy are used to determine the actual energy saved as a result of ESPC projects." The particular method used for specific projects depends on the type of technology used in the ESPC project.

"The ESPC program is a tremendous success both in energy dollars saved and reduction of environmental pollutants avoided due to the installation of more energy efficient equipment," said Parsons. The customer shares in these savings with the contractor, and both can operate on a win-win basis.

For ESPC information, contact Sally Parsons at Sally.B.Parsons@HND01.usace.army.mil.

Partnership with private industry nets environmental award

By ANN MARIE HARVIE
New England District

The U.S. Army Corps of Engineers' work to restore the nation's wetlands by establishing partnerships with private industry has been cited in its selection for the Paul Keough Environmental Award for Government Service by the Environmental Business Council of New England (EBC).

The Corps' New England District received the award, "in recognition of outstanding environmental leadership for developing and implementing comprehensive environmental restoration services and the corporate wetlands restoration program," during the EBC's annual meeting and awards ceremony, June 19, at Boston's World Trade Center.

According to the award nomination, the New England District was instrumental in all the Corps activities, from establishing the initial programs and activities, to developing the communications structure for the regional, then national, corporate wetlands restoration program. The New England District was also selected for its role in the Coastal America Program and its national corporate Wetlands Restoration Partnership Program.

"The Corps of Engineers has for the past several years been very involved in environmental protection and restoration projects," said Col. Brian E. Osterndorf, District Engineer. "In New England, we have led the way, through continuing authorities granted to us by Congress and with additional help from state and federal agencies and Coastal America, to focus on preserving our valuable habitat and fixing things that might have been damaged when we didn't well understand some of the costs of progress. With the added, enthusiastic involvement of our corporate partners, we, collectively, will make great strides in safeguarding our New England environmental treasures."

Photo by C.J. ALLEN

Neal Maxymillian, President and CEO of Maxymillian Technologies, and chair of this year's EBC Awards Committee presents Col. Brian E. Osterndorf with the Paul Keough Environmental Award.

The National Corporate Wetlands Restoration Partnership (CWRP) is a voluntary public-private partnership in which corporations join forces with federal and state agencies to restore wetlands and other aquatic habitats. The partnership also includes local communities, non-profit organizations, and academia.

"It is important to understand that the individual ecological restoration projects of the Corps – such as the Galilee, Sagamore and Broad Meadow salt marshes and the Smelt Hill Dam removal — are part of a regional effort by a team of federal agencies known as Coastal America, working together to reestablish degraded aquatic habitats in all six New England states," said William Hubbard, chief of the Corps' environmental resources section in New England.

"Critical to the regional, then national, success of this wetlands restoration program was a communications structure that not only coordinated the activities of the many federal agencies and the major corporate partners such as Gillette Corporation, but one that both listened and acted on the concerns of the public who would be impacted by the restoration activities," said Larry Rosenberg, chief of public affairs for the Corps in New England.

While the Corps played a major role in the development, implementation and communication of the environmental restoration activities, and the establishment of the corporate wetlands restoration program, "it was a total team effort – involving the hard work and dedication of many individuals, Federal and state agencies and the corporate partners — that are responsible for the overall success of the programs," said Col. Osterndorf. "We are successful because we – the Coastal America partners, the business community, and the public with their representatives — work as a team, finding solutions to environmental concerns, and implementing them."

For more information, contact Ann Marie Harvie at Annmarie.R.Harvie@NAE02.usace.army.mil

DOER focuses on environmental, cost benefits

By DR. MICHAEL PALERMO
Engineer Research and Development Center

The Dredging Operations and Environmental Research (DOER) Program is an integral component of the U.S. Army Corps of Engineers' navigation dredging and environmental protection missions. Dredging and disposal must be accomplished within a climate of increased dredging workload, fewer placement sites, environmental constraints, and decreasing fiscal and manpower resources. Balancing environmental protection with critical economic needs while accomplishing dredging activities is a major challenge.

One research area that the DOER Program focuses on is contaminated sediments. The presence of contaminated sediments in many industrial and urbanized harbors and waterways contributes to environmental degradation and inhibits the ability of the Corps to dredge, transport, and relocate sediments. The presence of chlorinated hydrocarbons such as dioxins is especially viewed as a potential threat to the environment and human health, often resulting in significant project delays and management cost increases. Although problems are severe in some areas, the public perception associated with contaminated sediments affects the entire navigation program. Currently, contaminated sediments unsuitable for conventional disposal may be confined, contained, treated, or simply not dredged.

Contaminated sediment research in the DOER program focuses on how to reduce cost and improve the reliability and acceptability of dredging, placing, managing, and controlling contaminated dredged material by:

· Developing rapid and inexpensive contaminant screening tools;

· Producing guidance for contaminant pathway assessments;

· Developing design guidance for contaminant controls and management;

· Demonstrating cost-effective treatment options and;

· Developing field approaches for confined facility reclamation.

During 1999-2001, engineers and scientists at the Engineer Research and Development Center (ERDC), in cooperation with Corps Districts, U.S. Environmental Protection Agency, and other stakeholders such as the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and state natural resource managers have significantly advanced the capability for managing disposal operations involving contaminated sediments.

Rapid and inexpensive biomarker tests were developed to quantify sediment dioxins with significant cost savings, and these procedures were applied to a navigation project critical to Coast Guard operations in Mobile Harbor. Screening tools have been developed for evaluation of contaminant transport pathways in Confined Disposal Facilities (CDFs) and were applied to Corps projects in Norfolk District and Navy projects at Pearl Harbor and Guam. Field verification efforts are also under way for contaminant pathway evaluations for CDFs.

In addition, low-cost approaches for treatment of contaminated sediments in CDFs have been developed to include particle separation techniques, phytoremediation, and bioremediation. These approaches were applied at the pilot scale in CDFs in the Chicago and Detroit Districts in cooperation with EPA and state and local agencies.

Full-scale management approaches for creating manufactured soil and reclamation of CDF storage capacity with subsequent beneficial use of reclaimed materials were implemented at sites in the Buffalo and Detroit Districts. Design guidance for contaminant controls and management in CDFs was completed and incorporated into Corps engineer manuals. Guidance developed for implementation of subaqueous capping as a management approach for contaminated dredged material has been applied at numerous projects both nationally and worldwide.

Additional information is available from Dr. Michael Palermo at Michael.R.Palermo @erdc.usace.army.mil.

Installation of a synthetic liner at a confined disposal site in the Netherlands.

Agreement couples Oakland Harbor deepening with wetlands restoration

By DONNA SHEPARD
San Francisco District

Bay Area wetlands stand to benefit from an agreement between the U.S. Army and the Port of Oakland that clears the way for deepening federal channels in Oakland Harbor and Port-maintained berths from –42 to –50 feet.

The $252 million navigation improvement project positions the Port to remain competitive by opening the way for the latest generation of container vessels to call at the Port of Oakland. What sets this project apart from others of its kind is the fact that it is one of the first in the nation to utilize nearly 100 percent of the material dredged for wetlands restoration and habitat enhancement.

"This is an important element of the overall project that supports the Long Term Management Strategy for disposal of dredged material from San Francisco Bay," said Lt. Col. Timothy O'Rourke, District Engineer at the U.S. Army Corps of Engineers' San Francisco District.

Long term strategy

Initiated by the San Francisco District Corps of Engineers in 1990, the Long Term Management Strategy was created as a partnership between federal and state agencies, navigation interests, fishermen, environmental organizations and the general public to make available acceptable alternatives to disposal of dredged material within San Francisco Bay.

"A cornerstone to that strategy is beneficial reuse," O'Rourke said, "and a number of Bay Area wetlands restorations projects will benefit."

Bay Area wetlands projects earmarked to receive the material include Hamilton Army Airfield Wetlands Restoration in Marin County, Montezuma Wetlands Restoration in Solano County, and the Oakland Middle Harbor Enhancement Area.

Shallow water habitat

Almost 50 percent of the 12.8 million cubic yards of material to be removed, 6 million cubic yards, will be placed at Oakland's Middle Harbor where it will be used to restore 180 acres of shallow water habitat. When completed, the Middle Harbor Enhancement Area will provide public access to a 37-acre park that will surround the marine habitat and provide areas for active use and areas for nature observation. The area also will provide potential foraging habitat for the endangered California least tern, spawning habitat for Pacific herring, promote fish production, and provide access to the shoreline and Bay.

Another 2.5 million cubic yards of materials will be placed at the former Hamilton Army Airfield on San Pablo Bay, in Novato, Calif., where the Corps of Engineers is working with the California Coastal Conservancy to restore a 700-acre parcel of inactive runways and adjacent taxi areas to wetlands. Work on that project could begin before year's end and dredge material could be received in 2004. When complete this project will consist of a combination of mudflat, tidal marsh, and seasonal wetland habitats to support endangered and threatened species.

Roughly 2.9 million cubic yards of material will be placed at the Montezuma Wetlands Restoration Project at Suisun Marsh. That project is also slated to begin construction this year and may begin receiving material from the Port of Oakland in 2003. The 18,000-acre site has a capacity for up to 20 million cubic yards of material and is anticipated to take 15 to 20 years to construct. When complete the project will provide habitat for a variety of endangered and threatened species.

Economic benefits

Economic benefits of the Oakland Harbor deepening project include adding more than 8,000 jobs to the Bay Area economy, $1.9 billion in increased annual business revenue, and $55.5 million in increased local taxes each year.

The Port's share of the project cost will be about $124 million. The Corps of Engineers' San Francisco District will represent federal interests in the harbor deepening project and the wetland restoration projects described above. Corps representatives work closely with non-federal sponsors to determine project feasibility and to design a project that makes good engineering, environmental and economic sense.

Components of the Port of Oakland Navigation Improvement Project include slight widening and deepening of the harbor entrance, outer and inner harbor channels, and two turning basins to –50 feet, as well as utility relocations. The Port will also deepen its berths and strengthen its wharves as part of the project. The project is closely associated with the Port's projects to construct new marine terminals and a joint intermodal terminal at the entrance to the estuary.

Work on the project began in August and will be completed in phases over the next five years. The first phase will include demolition of buildings and structures at the former Navy Fleet Industrial Supply Center Annex and a dilapidated pier along the Oakland Estuary.

For more information, contact Donna Shepard at Donna.P. Shepard@SPD02.army.mil.

Identification, transport of hazmat must follow DOT regulations

By SANDY ZEBROWSKI
HTRW CX

Hazardous materials ("hazmat") are expected to be found at U.S. Army Corps of Engineers sites when performing an environmental cleanup for a military installation or a customer such as the Environmental Protection Agency. They can also be encountered in contaminated dredged materials from a river, the soil and groundwater at a military construction site; or in the insulation and paint in military housing, the paint on the Corps flood gates, oil in the transformers at Corps projects, computer batteries, and fluorescent light bulbs.

Recognizing hazardous materials is important to not only ensure that materials are handled and managed correctly, it is also imperative to recognize hazardous materials prior to placing them in transportation to a recycling or disposal facility.

The transportation of hazardous materials is regulated by the Department of Transportation (DOT), Research and Special Programs Administration. DOT has established a comprehensive set of regulations in 49 CFR 171-178. Additional regulations apply to transporting hazmat by aircraft and by vessel. DOT classifies materials in nine basic "hazard classes": explosives, gases, flammable and combustible liquids, flammable and combustible solids, oxidizers and organic peroxides, poisonous materials, infectious substances, radioactive materials, corrosive materials, and miscellaneous hazardous materials. Other miscellaneous hazardous materials include all hazardous wastes, hazardous substances and marine pollutants, materials transported at elevated temperatures, and substances that have anesthetic, or noxious or other similar properties which could cause annoyance or discomfort to a flight crew member. Some common miscellaneous hazardous materials include asbestos and polychlorinated biphenyls.

DOT Regulated Hazard Classes and Characteristics

- **Explosives**
- **Flammable and poisonous gases**
- **Flammable and combustible liquids**
- **Flammable and combustible solids**
- **Oxidizers and organic peroxides**
- **Poisonous materials and infectious substances**
- **Radioactive materials**
- **Corrosive materials**
- **Miscellaneous hazardous materials**

There is no quantity at which these regulations take affect. Whether it is transporting a sample size jar of hazmat or a cargo tank full of a DOT regulated hazmat, the DOT regulations potentially apply. Generally, a shipping paper is needed, such as a bill of lading or a hazardous waste manifest. Packages also need to be properly marked and labeled, hazmat placed in approved DOT packages, and proper placards posted on the vehicle. Anyone having a role in this process is required to be trained and certified as well.

Any material that has one or more of the DOT characteristics may be a hazardous material regulated for transportation purposes by the DOT. Transporting hazmat without DOT compliance may lead to fines and penalties as well as set up a potentially dangerous situation for the transporter, emergency first responders, and other vehicles and persons in the immediate area should a spill, fire or accident occur.

For help in identifying materials, or for assistance with regulations or training, contact the HTRW CX at 402.697.2562.

Career management information to be built into new CP-18 Web site

The team charged with improving support for environmental professionals within the Army civil service Career Program 18 (Engineers and Scientists – Construction), or CP-18, is working to build career management information into the new CP-18 Web site scheduled to open later this year.

The team sent out a survey in July to a limited number of organizations seeking information about environmental professionals in the Army. It received more than six times the number of expected responses, said Herbert K. Jemmott, special projects manager in the Headquarters, U.S. Army Corps of Engineers Military Programs Environmental Division.

"We were expecting to receive 50 questionnaires back, and we got over 300. It's obvious that civilians working in environmental fields are interested in obtaining information that will help them develop and meet career goals," Jemmott said.

Although much of the focus has been on environmental careerists, the team's work will benefit CP-18 as a whole, he said.

"There's more emphasis on mobility and having broader experience" in the career field these days, Jemmott said, plus the Army today is emphasizing the environment more than it did when current CP-18 management tools were developed.

The team is working to identify and focus on specific groups within and beyond CP-18 as part of the career program reevaluation. Many historians and social scientists work in the environmental field, but are not within CP-18.

"If you're doing work covered by a CP-18 position, then you're automatically in CP-18," Jemmott said.

The team will evaluate whether other job series should be added to CP-18, and make recommendations to the CP-18 Career Program Manager.

The team is developing a CP-18 environmental subtrack that focuses on three different groups. Army environmental organizations down to the installation level need a pool of qualified careerists; careerists themselves need training opportunities, job assignment guidance and information about the field; and career managers need the proper information and training as they support civilian environmentalists.

"In the end we hope to have built tools that will enable user organizations, such as the U.S. Army Environmental Center, an installation department of public works or a U.S. Army Corps of Engineers district office, to have a pool of qualified careerists to support the Army environmental mission," Jemmott said.

Editor's note: This article is a compilation of two articles written by Neal Snyder, editor of the U.S. Army Environmental Center's Environmental Update.

Corps supports AMC's unique cultural resources program

By BILL METZ
Fort Worth District

In 1989, the Army Materiel Command (AMC) was in a bind. The command had a large responsibility for managing cultural resources but was not able to bring on a large permanent staff to run this program. While searching for a solution, AMC looked to the U.S. Army Corps of Engineers, whose Fort Worth District had previously worked on several command-wide initiatives. After much discussion, the Corps and AMC began an innovative partnership.

A memorandum of agreement spelled out the partnership terms. While Fort Worth District supports AMC in all its cultural resource program needs, individual districts retained the right of first refusal for projects in their areas. In fact, more than 85 percent of the AMC work has been completed by the local geographic district. The partnership has enabled AMC to maintain a very high compliance rate within a challenging program.

What makes AMC's cultural resources program difficult is the uniqueness of AMC's facilities, which are generally industrial operations and are often managed by a contractor rather than the military. An individual with detailed military cultural resource management knowledge would have some difficulty in applying that knowledge to AMC facilities because the primary factor governing the operation of the facility is the operating contract, not government procedures. The contracts are different at each facility and often dictate differing budget processes, review procedures, and responsibilities for compliance with AMC cultural resource management issues.

AMC faces unique cultural resource requirements. Their program requires an extensive knowledge of standard cultural resource management, a detailed knowledge of standard military cultural resource management, and the ability to apply that knowledge to situations that don't occur anywhere else. In addition, as many facilities are, or are expected to be, undergoing realignment, closure, and downsizing actions in some form, the procedures are often further modified or subjected to compressed time frames.

To better manage AMC's program, Fort Worth District hired an on-site technical specialist and a liaison for all AMC-Corps cultural resource actions. The technical specialist is ready to respond to any question or situation that may affect the cultural resources on an AMC installation and handles a wide range of duties and responsibilities. This person also supports the functions normally performed at a major command level including assisting installations in developing budgets and prioritizing projects; reviewing proposed regulations and guidelines from all levels; developing draft AMC guidelines and policies; reviewing reports and documents produced by installations; responding to requests for information from Army headquarters; and serving as the command troubleshooter whenever issues or problems arise.

The technical specialist provides support for a wide range of programs and initiatives at the command level. Duties include distributing guidance on complying with new regulations or legislation, providing training for AMC personnel, and managing many contract efforts.

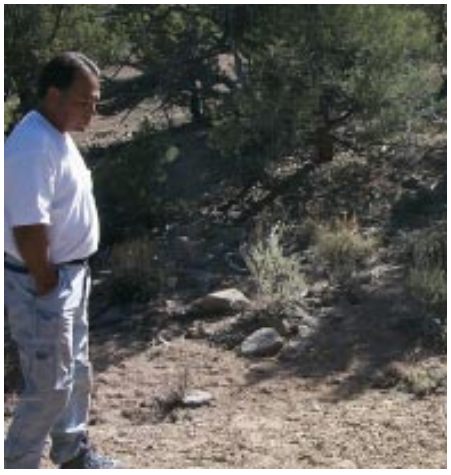
A major part of the job is supporting command-wide initiatives, such as the complex and controversial Base Realignment and Closure Program. As the command technical liaison, this person supports AMC in dealing with a wide range of agencies, public groups, the media, and other military offices; and ensures that the numerous installations affected by BRAC are addressed in a consistent and complete manner.

Often the issues regarding cultural resources at military installations deal with highly sensitive political situations. In these situations, the technical specialist is often required to deal with local, state, and federal political organizations including Congressional representatives and their staffs, governors, local redevelopment committees, representatives from Native American Tribal governments, secretariat-level representatives from different agencies, as well as the media.

The technical specialist position has been key to ensuring the continued success of the long-term Corps-AMC cultural resources management partnership. Through the partnership, AMC has been able to substantially meet its compliance requirements and develop a top cultural resource stewardship program in a very demanding environment.

For more information, contact Bill Metz at 817.978.9977.

Fort Worth District helps AMC determine the amount and type of archeological mitigation for their projects.



Meeting the AMC Native American consultation requirements is an important role for the Fort Worth District.

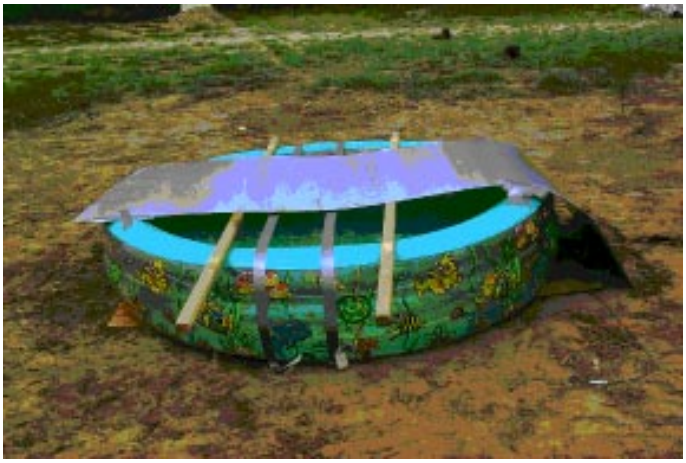
Blast, fragment mitigation demo conducted at Fort Ord

New water method developed by joint Corps, contractor team

By JEAN PAVLOV
Huntsville Center

In late April, a new approved method for reducing blast and fragment effects from intentional detonations of munitions was demonstrated at the former Ford Ord, Calif.

The former Fort Ord is among the projects the Corps of Engineers' Sacramento District is currently working on requiring disposal of uncovered and discarded Ordnance and Explosives (OE). Dr. Michelle Crull, Senior Structural Engineer in the Huntsville Center's Structures Branch, explained, "An uncovered OE item is often detonated in place if it is too dangerous to move. Methods used for this detonation are either covering and tamping the item with loose earth, or covering it with sandbags. The problem with both of these methods is sometimes secondary fragments are thrown some distance from the blast.



Test set-up for the 81mm mortar under the wading pool.

"Our preliminary tests show that water can be used to reduce the fragmentation and blast effects, and, depending on the method used to contain the water, there may be no hazardous secondary fragments," she said.

Post detonation of the 81mm mortar.

"In addition, the water quenches the fireball and there is no fire hazard caused by the detonation. This is very important when working in a high fire hazard area, like the former Fort Ord."

The U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Miss., teamed with Huntsville Center under the OE Innovative Technology Program to determine the amount of water needed to defeat the fragments, and the type of water containment system that was the most successful.

Sacramento District, and its contractor, Parsons Infrastructure and Technology Group, Inc., developed and performed the demonstration using a low cost children's inflatable wading pool (unofficially called the "kiddie pool demo") placed on top of the unexploded ordnance (UXO) and filled with water.

The pool helps to minimize, or attenuate, the effects of the UXO detonation. It tends to quench the hot metal frag as it leaves the point of explosion, while also cooling the fireball so that flames and smoke are not as strong.

This demonstration was held at the former Fort Ord for the then Garrison Commander, Col. Peter Dausen. The demonstration consisted of a previously inert 81mm mortar packed with approximately 10 ounces of C4 (a donor explosive) to approximate a found UXO item. Detonating cord and perforators were used for the disposal operation; the simulated UXO item was buried approximately 18 inches deep in soil, with a 4-foot by 8-foot sheet of plywood covering the item. On top of the plywood was the inflatable wading pool, approximately 60 inches in diameter and filled to a depth of 18 inches with water.

Once the area was cleared of the observers, the fire department came in and put down a foam and water preventive, and then the detonation took place. Virtually no flame and little smoke or dust was emitted from the test.

"It was demonstrated that the use of the inflatable pool reduced the fire hazard," said Juan Koponen, Sacramento District Project Manager at the former Fort Ord. "And since inflatable swimming pools do not produce any significant secondary fragments, the potential for propagating fires was eliminated."

Corps officials say this method will be used on the former Ford Ord and at various locations when the potential for propagating a fire from detonations of UXO needs to be minimized.

For more information regarding the Fort Ord demonstration, contact Juan Koponen at 831.884.9925.

EPA 'Reuse Assessments' useful for HTRW sites

By ANITA MEYER
HTRW CX

The U.S. Environmental Protection Agency recently released Office of Solid Waste Emergency Response (OSWER) Directive 9355.7-06P, "Reuse Assessments: A Tool to Implement the Superfund Land Use Directive." This directive reaffirms its 1995 Superfund Land Use Directive, and extends the applicability of the Superfund Land Use Directive to removal actions, and provides a guide for conducting land reuse assessments. The latter information should prove to be a useful tool for assessing future land use at the Corps of Engineers' Hazardous, Toxic and Radioactive Waste (HTRW) projects, according to Corps officials at the HTRW Center of Expertise.

In 1995, EPA issued OSWER Directive 9355.7-04, "Land Use in the CERCLA Remedy Selection Process," known as the Superfund Land Use Directive. It directed how future land use should be considered in the baseline risk assessment and in evaluation and selection of remedies at Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites. It also promotes early discussion with the public, local officials, and planning authorities regarding land use.

Land use

Future land use is an important consideration when determining whether an HTRW site poses a risk and requires action, as well as determining the extent of remediation required. Sites with land uses where there is frequent, long-term contact with contaminants, such as residential reuse, require more stringent cleanups to be protective as compared to sites with commercial/industrial or recreational reuse.

EPA's reuse assessment tool involves the collection and evaluation of information regarding future land reuse at a site. The end goal is the development of a realistic assumption regarding reasonably anticipated future land use for use in the baseline risk assessment, as well as development of remedial alternatives. Information will come from sources such as land records and discussions with local government officials and stakeholders.

Considerations

When collecting information for the assessment, EPA recommends considering the following questions:

- What is the history of the site?
- What are the current uses and indication of change?
- What plans do the owner and purchaser have for future use of the site?
- What factors favor or limit future use?
- Which key individuals and groups will determine reuse and what are their views?
- How is the community involved in reuse planning for the site?

Documentation

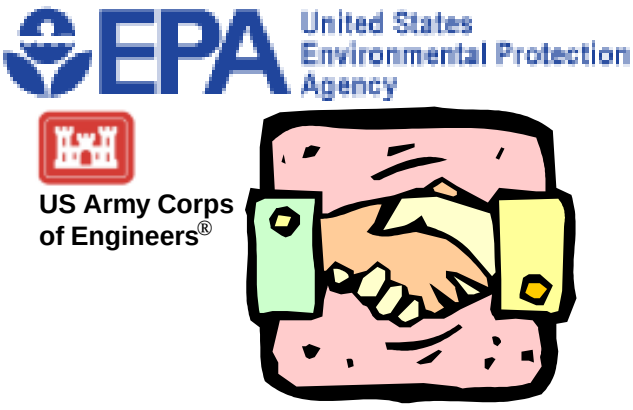
The directive states that information on environmental conditions that would impact site reuse, (such as existing institutional controls and location of contaminants) should be integrated with other information when developing future land use assumptions. It also stresses involvement of the community, state and tribal officials in the reuse assessment and in development of future land use assumptions. EPA recommends that the results of the reuse assessment identify/support the potential future land use(s), be documented as a section in site reports, such as Remedial Investigation/Feasibility Studies (RI/FS) or Engineering Evaluation/Cost Analyses (EE/CA), or as a separate report, and described in site decision documents.

Value

Information obtained through a reuse assessment will be valuable information for performance of risk assessments and in developing remedial alternatives for sites. It will allow Corps project teams to direct their efforts towards land uses that are appropriate for a given site. Therefore, consideration should be given to data needs for the reuse assessments in project planning and the assessment conducted in early project phases if possible.

OSWER Directive 9355.7-04, "Land Use in the CERCLA Remedy Selection Process," is available at: http://www.epa.gov/oerrpage/superfund/resources/landuse.pdf and OSWER Directive 9355.7-06P, "Reuse Assessments: A Tool to Implement the Superfund Land Use Directive," is available at http://www.epa.gov/oerrpage/superfund/programs/recycle/pdf/reusefinal.pdf.

For further information contact Anita Meyer at 402-679-2585 or anita.k.meyer@usace.army.mil.



Umatilla Chemical Agent Disposal Facility completed

By DIANE A. GRANT
WASHINGTON (Army News Service, Aug. 15, 2001) — A ceremony Aug. 13 marked completion of construction on the $395-million Umatilla Chemical Agent Disposal Facility in Oregon, designed to safely dispose of dangerous chemical munitions.

The Umatilla facility is the second chemical demilitarization facility for which the U.S. Army Corps of Engineers' Huntsville Center has managed the entire life cycle design and construction, and the second facility completed this year (the Anniston [Ala.] Chemical Agent Disposal Facility was completed in June). The Corps' Seattle District managed the Umatilla Depot support project for the facility.

Brig. Gen. Steven R. Hawkins, representing the Corps' Military Programs, was one of the featured speakers for the ribbon-cutting ceremony. Brig. Gen. Hawkins characterized the Corps' role as "building a safer tomorrow," and touched upon a theme that was echoed by the other speakers: the program's commitment to rid the world of the toxic legacy of chemical weapons, and its unparalleled emphasis on public safety and environmental compliance.

"That commitment has been carried for decades in the hearts and minds of the Depot's workforce here at Umatilla. That commitment has been nurtured by the Program Manager's staff, and the Soldier, Biological Chemical Command. That commitment is now being made real with the help of partners such as the Washington Group [the construction and systemization contractor] and the rest of the Umatilla Team," said Brig. Gen. Hawkins.

The facility will be used to destroy chemical munitions that have been stored at the Umatilla Chemical Depot for 40 years. The stockpile consists of spray tanks and bombs containing mustard, sarin, and VX. The disposal process is expected to start in early 2003. A period of testing, called systemization, began in March and will continue until the disposal process gets underway, a plant official said

"We have overwhelming support for the facility from the local community," said Don Barclay, the Disposal Facility Site Project Manager.

The facility was reported as the state's top construction project in 1998, and is described as one of the largest building projects in Oregon history. It is also the second largest project in the Northwest topped only by pro baseball's Seattle Mariners' new stadium, according to the Umatilla outreach office.

The Umatilla Chemical Agent Disposal facility, above, is the second chemical demilitarization facility for which the Corps of Engineers' Huntsville Center has managed the entire life cycle design and construction. At right, Brig. Gen. Steven R. Hawkins represented the Corps' Military Programs at the Aug. 13 ceremony. At his left is U.S. Senator Gordon Smith (R-Ore.).

Construction for the chemical facility began in June 1997 and was completed May 10. The facility includes a dozen buildings totaling about 200,000 square feet. The facility is expected to dispose of 3,717 tons of chemical agents, or 11.6 percent of the nation's original stockpile, according to the Umatilla Outreach Office.

The Army is committed to safely storing and eliminating these weapons from the community, Barclay said, adding that the process is expected to last more than three years.

The Umatilla Facility will incinerate the chemical agents over a period of several years. Then the facility will be dismantled, Myers said.

"We will take as long it takes to dispose of the chemicals safely," he said.

"We have applied the lessons learned over a 20-year period to develop the Umatilla facility," Barclay said. "We also have several oversight agencies who ensure that we design and implement the best and the safest technology in the disposal process."

Washington Demilitarization Company of Boise, Idaho, holds the Army contract to build, test, operate and close the Umatilla facility. The company has similar contracts for stockpiles at Anniston, Ala., Pine Bluff, Ark., and Johnston Atoll southwest of Hawaii.

For more information contact the Umatilla Outreach Office or visit the Program Manager for Chemical Demilitarization Web Site at:// www-pmcd.apgea.army.mil or call the Umatilla Outreach Office at (541) 564-9339.

Sacramento works with Tribe to close FUDS

By CINDY VINCENT
Sacramento District

The U. S. Army Corps of Engineers, Sacramento District, has recently closed out what once was a suspected contaminated site in Skull Valley, Utah. In March 1968, an Army pilot performing aerial tests to detect chemical warfare agents VX and GB over Dugway Proving Ground (DPG) in Salt Lake County inadvertently dropped contaminating nerve agent outside the DPG area. Winds up to 35 miles per hour carried the nerve agent into the surrounding area, contaminating nearby vegetation. This led to the accidental death of thousands of sheep after they ingested the contaminated vegetation.

The Army ordered the burial of approximately 6,500 sheep in areas around DPG. These areas included Skull Valley Goshute Indian Reservation in Toole County, Utah; Russell Range in Rush Valley; the Main Hatch Ranch in Skull Valley; and near White Rock in the southwest corner of Skill Valley. Along with ordering the burial, the Army settled claims for the sheep and the temporary loss of grazing for farmers.

In 1968, the Army buried thousand of sheep on the Skull Valley Goshute Indian Reservation.

"The contaminated area was used by the tribe as a pass-through area for hunters on their hunting trips," said Chairman Bear, Tribal Chairman for the Skull Valley Band of Goshute Indians (SVBG), said.

In 1996, the Corps of Engineers' Sacramento District began an investigation to locate the sheep remains and determine the extent of residual chemical warfare materiel and agent byproducts on the Goshute Indian Reservation. In 1997, the Sacramento District issued a contract to David Tillson, a geologist for the Tapai Project Office of the SVBG, to locate the four burial pits and one trench. Tillson located the pits after reviewing literature and aerial photos, interviewing a former army officer who was present at the time of the burials, and performing ground reconnaissance.

Weston Geophysical Corporation used two type of geological surveys to determine the precise boundaries and depths of the four burial pits. The first type was a multi-frequency electromagnetic survey to establish the horizontal boundaries and to determine the areas within the pits where the sheep would be concentrated. The second type was a 3-D ground-penetrating radar survey that determined the depth of the sheep remains accurately. The trench was not surveyed because the uneven ground could have adversely impacted the results.

"I learned about the ground-penetrating radar from the site cleanup contractor and found it to be better, cleaner for the environment and a more thorough process to determine where all the sheep remains were located," Bear said.

In January 1998, soil samples were collected from the four burial pits and the trench using direct-push (Geoprobe) system.

After the soil samples had all been collected, each boring was filled with clean granular soil. According to the soil sample analysis, there was no detection of nerve agent VX, GB or their byproducts in the soil. The soil samples and decon water were then collected, contained in 55-gallon drums, and handed over to the Goshute Indian Tribe for controlled storage. The samples were then stored in a solid waste site located within the boundaries of the reservation.

The cooperative agreement was the preferred vehicle to accomplish the tasks at hand versus a conventional contract. The cooperative agreement placed the overall control of the project with the Goshute tribal leaders and situated the Corps of Engineers in a support position providing guidance when requested and working other administrative issues with the Office of the Secretary of Defense (OSD). Implementation of the cooperative agreement was funded by the Native American Lands Environmental Mitigation Program, OSD.

Through the cooperative agreement, both the Corps and the Goshute Indians began to understand the cultural differences of each and the importance of communicating freely and frequently. Together they were able to network with other Native American-owned companies to perform work, and provide OSHA training for the tribal members.

In 2000, the decision was made to excavate sheep remains and backfill the burial pits with clean soil. "There was difficulty with this stage because the soil contamination was non-detect, but there was still concern among the tribal community over burial of sheep on sacred soil," said Peter Broderick, Army Corps of Engineers Project Manager. "Basically, when you have a cooperative agreement you have expectations laid out where it is a necessity to fulfill both sides of the agreement."

The sheep remains and adjacent soil were excavated by Kleinfelder, Inc., and Clearwater Environmental who then transferred them to the Wendover Municipal Landfill as non-hazardous solid waste. The burial pits were filled with clean soil and the site was re-graded to near-original conditions.

In 2000, the soil and sheep remains were excavated from the site.

"I felt that the contractors [Kleinfelder] did a good job cleaning up the site. I am pretty satisfied with the way the site was handled," Chairman Bear said.

For details, contact Cindy Vincent at 916.557.7887.

From left, Chairman Bear, Beverly Slack, Laurie Laplante of Kleinfelder, and Peter Broderick of the Corps.

Wastewater treatment facility supports soldiers, the environment

By ALICIA GREGORY
Europe District

The U.S. Army Europe (USAREUR) recently tasked the U.S. Army Corps of Engineers, Europe District, to resolve the problem of what happens to the great quantities of wastewater produced in a country whose sewage system is in disarray from several years of neglect due to civil war.

Europe District was the construction agency in charge of completing two wastewater treatment plants in Tuzla, Bosnia - specifically Task Force Eagle Base and Camp Comanche. The recently completed wastewater treatment plants cannot currently treat portable toilet waste, but they have been instrumental in improving the environmental health of the Tuzla area military bases since their completion last year.

Photo by DAPHNE ROSS

The plant's modular structure made construction easier.

"USAREUR, as the European Command's designated Executive Agent for environmental matters in the Balkans, periodically reviewed environmental issues associated with the operation," explained William Nicholls, former Environmental Officer for USAREUR during the project's life cycle from 1999 to 2000. "From the initial deployment we knew that the wastewater treatment facility at the Task Force Eagle Base was insufficient to handle the load, and Commanche had no plant at all (waste was trucked daily to the Eagle plant, further overloading the facility). We did some studies, through the Corps; validated the requirement; then set to work designing the 'correct fix' - effective, economical, and flexible (for changing troop concentrations)."

It was decided to build a new million dollar wastewater treatment facility at Task Force Eagle Base that would replace a 40-year-old Yugoslavian one that was old and very smelly, and another almost million dollar facility at Camp Comanche to reduce the amount of trucked waste to the Task Force Eagle Base, said Jimmy Walden, Project Engineer.

Creating this fix posed some challenges: a lack of local commercially available competition, location (it was essentially a high risk area), and force protection requirements.

The district team, lead by Project Manager Daphne Ross, after researching the types of treatment plants that would fit the criteria, selected a sequencing batch reactor (SRB) system manufactured by Farmatic, of Nortorf, Germany, with the plant's design being done by Buchart-Horn, Inc., of York, Pa.

The SRB system processes the waste in one container, which reduced the plant's cost; and its modular structure allowed for ease of construction. "This basically old technology was rediscovered in the late 1980s in North America and Europe and is now using microchips to computerize the timing of the process," said Pat Brady, Engineering Technical Advisor. "SBRs are ideal for small communities or installations."

"We also could not have a permanent structure due to requirement from USAREUR, NATO, and the Dayton Peace Accords, so this product fit the bill," said Ross. "Although the foundation and piping of the plants are stationary, components of the treatment plants are not. They are actually bolted together. Technically the major components could be disassembled and moved thus fulfilling the peace accords that state NATO forces are to remove all equipment upon leaving the region.

"There are two reactors at each site," she said. "While one is digesting the waste, the other is filling up. This allows for waste to be processed in a minimal amount of space, and offers the capacity of handling peak loads."

"The efficiency of treatment is excellent because you have all of the major phases of treatment accomplished in one place," said Brady.

The waste biosolids are composted off-site and blended as a conditioner for remediated soil at an off-site facility, according to Andy Jantzer Buchart-Horn's Chief Designer on the project.

What is released is clear water, although not drinkable, well within the limits to be safely discharged in the river.

It took approximately one year to finish the construction of the facilities, which were completed by February 2000. The construction and operations phases were coordinated by three offices: Europe District handled primary contracting, logistics and technical issues; the Corps' Base Camp Coordinating Agency's Project Engineer handled on-site inspection and field coordination; and contractor, Buchart-Horn, handled specialized technical issues such as shop drawings, design changes, plant process issues and milestone field inspections.

"A concept that has come out of this effort is something called the "Zero Footprint Base Camp" which is getting attention in the Pentagon," said Nicholls.

The "Zero Footprint" base is essentially self-contained environmentally - all solid waste is reused (e.g., burned for energy), wastewater is treated and reused (e.g., for irrigation, dust control, fire protection) and hazardous waste is minimized or eliminated through careful material control.

"The immense success was that the concept was even considered, then actually came to fruition," said Nicholls. "This was probably the first time that environmental considerations were ever addressed in a U.S. military operation (foreign deployment) to any extensive degree and I believe it demonstrates the maturation of an environmental culture and ethic into the entire strata of the military. It has been 30 years since the National Environmental Policy Act was passed and the leadership of the military is now in the hands of this first generation of environmentally active Americans."

For details, contact Alicia Gregory at Alicia.M.Gregory@NAU02.usace.army.mil.

First order controls setting new benchmark for Everglades Restoration

By Christina Swanson Plunkett
Jacksonville District

At the heart of one of the most aggressive environmental restoration projects in the world—the Comprehensive Everglades Restoration Project or CERP—is the establishment of a new south Florida system-wide survey standard.

Four contracted survey teams, in coordination with the U.S. Army Corps of Engineers and South Florida Water Management District (SFWMD), are blazing nine marked trails across south Florida which will "set the standard" from which all CERP projects will be based. And, in the process, they will be providing more accurate survey "datum" for local, state and federal agency and private firm use.

It's the first time that the Jacksonville District and SFWMD are partnering with the National Geodetic Survey (NGS), a department of the National Oceanic and Atmospheric Administration, to establish "first order" vertical controls. First order vertical controls are the highest and most precise vertical benchmarks established.

First order vertical controls

With surveying being the backbone of any Corps construction-based mission and with the Corps known as *the* nation's surveyor even before Florida's statehood, why do we need more surveying and why, and what, are "first order" vertical controls? According to David Robar, Survey Section Assistant Chief, typically, any land survey has to be monitored and readjusted every five to 10 years simply because of the earth's movement. So, updating surveying data is not unusual, but upgrading the procedure and equipment used in the process to raise the precision from the normally-used "third order" to "first-order" vertical controls is what's making headlines.

There are two vertical datums, or points of reference, currently in use in south Florida—the National Geodetic Vertical Datum of 1929 (NGVD-29) and the North American Vertical Datum of 1988 (NAVD-88). (Actually, there are many datums, but these two are the most prominent.) For many years, the Corps and SFWMD have registered water elevations in accordance with the NGVD-29 datum that are used by Project Delivery Teams (PDTs) for scientific data analysis, modeling, design, construction and operations and maintenance. Recent inconsistencies found within NGVD-29, which could lead to erroneous results if not corrected, have NGS mandating SFWMD and the Corps to now use NAVD88 vertical datum. Along with this change is still the need to resolve past elevation discrepancies from using NGVD-29 as a frame of reference.

Need for precision

The need for a precise or "first level" survey control is also necessary due to the critical nature of CERP projects and the importance of having one geodetic vertical network for the entire CERP area. "The Corps doesn't typically oversee projects that cover an entire state," Robar said. This is another reason why Jacksonville District had to move to NGS standards that are more stringent. It's also why NGS and Ron Taylor, state advisor for NOAA and assigned to represent the Florida Department of Environmental Protection, are out in the field providing quality control.

Geodetic Network

This greatly anticipated Geodetic Network will cover Florida south of State Road 70 to the Tamiami Trail in Miami-Dade County and along U.S. 1 from the east to west coasts. Approximately 850 to 900 miles of forward and back survey runs will be made (a total of 1800 miles in both directions), and are scheduled to be completed within two years. An added bonus is Martin County, which is independently conducting vertical control work at NGS standards in its area. Charlie Fales and Howard Ehmke, project managers representing the Corps and SFWMD, respectively, are coordinating all the efforts involved in establishing this new network.

One more "effort" in the process, anticipated to begin in November or December of this year, will be recording horizontal and vertical Global Positioning System (GPS) data on selected monuments throughout the network. The information collected from GPS data will eventually be incorporated into the final network adjustment and report.

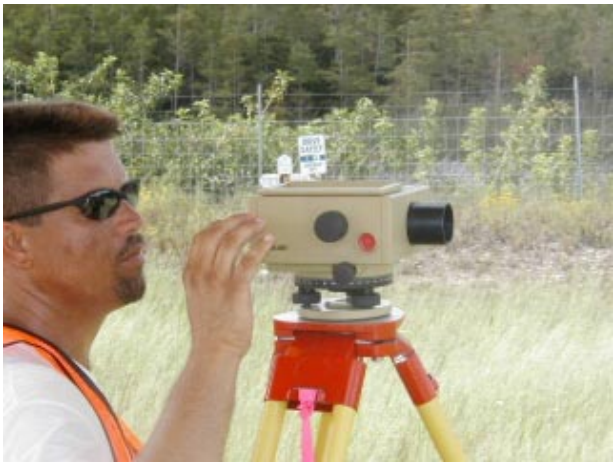
GPS accuracy

The use of GPS surveys for geodetic vertical control is also something that is being looked into by NGS because of higher accuracy over long distances and less expense. Using GPS provides time and cost savings over using the traditional surveying equipment and methods. So, utilizing GPS in producing this CERP Geodetic Network, may also contribute to changing the way surveys are done in the future and may cause a revamping of the USACE BENCH database manuals used throughout the Corps. Only time will tell.

CERP foundation

"When you realize that billions of federal and state dollars will be invested into CERP over the next 37 years, Geodetic Vertical Controls is a crucial project," Fales said. "The foundation of all engineering and scientific analysis and subsequent construction activities rests in the accuracy of the survey data and how well that data correlates across the entire project area."

For more information, contact Christina Plunkett at 904.232.3065.



An observer sets up the Leica NA3003 Bar Code Level Instrument to take readings to establish the difference in elevation between survey monuments.

Missing class ring recovered at Superfund site

Ring missing four years returned to owner's widow

By LARRY CRUMP
Kansas City District

"The Lord works in mysterious ways!"

That was the reaction of Shirley Lamb, property owner in Joplin, Mo., talking about the discovery of a class ring her late husband had lost in the back yard of their home several years ago. The ring was recovered July 5 by Chris Nelson, operator of a skid steer, and Jerry Guinn, a laborer who serves as a "lookout" for the heavy machinery. Both are U.S. Army Corps of Engineers contractors who work for URS, cleaning up lead contamination in the yards in and around Joplin as part of the Jasper County Superfund project.

Discovery of the ring was a happy ending for Lamb. For Dan Ahern, the Kansas City District's construction representative on the site, it turned out to be a pleasant interlude in what can sometimes be a less than pleasant public relations interchange. He said it was one of the most satisfying experiences that he has had in the 51 months he has been on that job.

Ahern is responsible for the inspection of the clean up work on the properties at the Jasper County Superfund Site. Soil in the yards of the residents that is contaminated with lead residue from the mining that was once prevalent in the area is removed and replaced with clean soil. Removal and replacement, which is only accomplished if the landowner gives permission, has involved 2,500 homes in the area. Completing a site includes reseeding the soil and landscaping the yards to their original plantings. The landowners agree to maintain their yards by watering and fertilizing.

Ahern tells the story:

"As I was inspecting the work yesterday afternoon Mrs. Lamb stopped me. She is a lady who had previously denied access for remediation on her property in Joplin. I was expecting a complaint, but such was not the case. She wanted to tell me a story.

"She related that when she and her husband, Monte, were married many years ago he had wanted to attend college. But because of family and finances, he was unable to do so. Eventually Mr. Lamb started attending night courses, she said. For the next 16 years he persevered and finally graduated, receiving a bachelor's in business administration from the University of Houston, Class of 1970. It was a big event in the Lamb family and accordingly, Mr. Lamb purchased a class ring.

"About four years ago, prior to his passing, he lost his class ring while mowing the yard. This upset the Lambs very much as this ring meant a lot to the family. They tried unsuccessfully to locate it, but to no avail.

"When our excavating crews moved into the property earlier this week, Shirley had asked the workers to keep an eye out for the ring, knowing that the chances of finding it were extremely remote."

But it happened! Chris Nelson, operating a skid steer (a tractor with a scoop on front) noticed a shiny object he had unearthed at a depth of more than six inches. He dismounted and found the ring. He then knocked on the door and gave the ring to Lamb. "Shirley was nearly in tears as she related this story to me," Ahern said. "In fact, yesterday was her son's birthday and the family could not have received a better gift.

"I laughingly asked Shirley if she wished she had allowed access to the property years ago.

"The Lord works in mysterious ways!" she replied.

For more information, contact Daniel Ahern at Daniel.S.Ahern@NWK02.usace.army.mil.

Above from left: The Corps' Daniel Ahern, Laborer Jerry Guinn, Property Owner Shirley Lamb, and Skid Steer Operator Chris Nelson celebrate the return of Lamb's late husband's ring. At left, the class ring lost by Lamb's husband four years ago.

Tech update

Guide available for developing, documenting cost estimates during the CERCLA feasibility study

An update of an early U.S. Environmental Protection Agency guidance document that addresses the expectations for cost estimates of remedial action alternatives developed as part of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Remedial Investigation/Feasibility Study (RI/FS) process was completed in July by the EPA and the U.S. Army Corps of Engineers.

These cost estimates can be used in the CERCLA remedy selection process upon completion of the RI/FS. The goals of this update effort includes the following: 1) Encourage the development of more complete and accurate cost estimates by pointing out resources for cost estimating; 2) Improve the consistency of cost estimates by presenting clear procedures and expectations; and 3) Improve the documentation of cost estimates by presenting a standard format and checklist of cost elements.

The targeted audience includes cost estimators, technical support contractors, remedial project managers (RPMs), and program managers.

This guidance is intended to satisfy the needs of each of these audiences. It should provide the cost estimator and technical support contracting community with a resource tool to help them develop better cost estimates utilizing consistent procedures, and it should provide RPMs and program managers with an understanding of the nature of the cost estimates that are presented to them and the questions they need to ask when reviewing and evaluating them. The guidance document can be downloaded from the Corps' Cost Engineering Web site at http://www.hq.usace.army.mil/cemp/e/ec/ec-regs.htm#anchorER (scroll down to "Environmental Cost Estimating Guide") or at the EPA Web site at http://www.epa.gov/superfund/resources/remedy/costest.htm.

For more information contact Mike Goldstein, EPA, at 509.376.4919, or Stan Hanson, Corps of Engineers HTRW CX, at 402.697.2609.

Spotlight On: DoD American Indian, Alaska Native Policy supported by Corps

The Department of Defense's American Indian and Alaska Native Policy operates on the principles of trust responsibilities, government-to-government relations, consultation, and natural resources protection. The U.S. Army Corps of Engineers supports this policy at waterways, dams and lakes, project lands, and through cultural resources, environmental restoration and protection, and the Clean Water Act. The Corps' Formerly Used Defense Sites (FUDS) program assists the DoD Native American Lands Environmental Mitigation Program (NALEMP) by addressing environmental impacts from former DoD activities on Indian lands and Alaska Native Claims Settlement Act (ANCSA)-conveyed properties. NALEMP addresses potential environmental impacts including hazardous materials, unexploded ordnance, old equipment, unsafe buildings, and debris.

The closure of a FUDS site at the Goshute Indian Reservation in Skull Valley, Utah (*page 11 of this issue*) was a project funded through NALEMP. *The Corps Environment* plans to publish more articles concerning these types of projects in the future.

For more information about the DoD policy, go to http://www.denix.osd.mil/denix/public/native/outreach/policy.html.

OE CX interim guidance

The U.S. Army Corps of Engineers' Ordnance and Explosives (OE) Center of Expertise has issued interim guidance on two new areas – Ordnance and Explosives Risk Impact Assessment and Technical Project Planning, which can be obtained by logging on to www.hnd.usace.army.mil/oew/policy.html.

Interim Guidance 01-01, Ordnance and Explosives Risk Impact Assessment (OERIA), helps assess the risk when conducting Engineering Evaluation/Cost Assessments (EE/CA). OERIA is not a mandatory tool, however it helps the stakeholder assess the risk of the proposed alternatives and understand how the risk is impacted by the different alternatives offered for consideration.

Interim Guidance 01-02, Implementation of Technical Project Planning (TPP) for Ordnance and Explosives (OE) Formerly Used Defense Sites Projects (FUDS), provides information on the implementation of technical project planning during OE FUDS work, particularly during the EE/CA stage. The TPP interim guidance is intended to supplement EM 200-1-2 and tailor it more toward an OE perspective.

The Challenge To Excel

Professional Development Opportunities

Listed below are environmental training courses in the PROSPECT program available in the first quarter of FY02. To enroll in any of these courses, enrollment should be discussed with and approved by the supervisor and the local training coordinator, and a DD1556 must be completed and forwarded to the Registrar's Office of the USACE Professional Development Support Center (PDSC), phone 256.895.7421, or fax 256.895.7469.

Some courses are currently full, while some still have spaces available. If a course is full, you may request to be put on a waiting list and you will be informed if a space becomes available. Additional information about these courses is available on-line at http://pdsc.usace.army.mil. The annual Purple Book, or FY2002 Survey of Proponent Sponsored Engineer Corps Training needs is also available for downloading from this site. Point of contact for this information is John Buckley, 256.895.7431.

#285	Streambank Eros/Prot	Oct. 15-19, 2001	Vicksburg, Miss.
#178	Basic HEC-HMS	Nov. 5-9, 2001	Davis, Calif.
#428	HTRW Cost Reimb T.O.	Nov. 6-8, 2001	Fort Worth, Texas
#4	A-E Contracting	Dec. 3-7, 2001	Dallas-Fort Worth, Texas
#397	Diving Inspector	Dec. 3-7, 2001	TBD

Contaminated Property Transactions--Diamonds in the Rough
Nov. 1-2, 2001
San Francisco, Calif.
Web site: http://www/RTMcomm.com

Army's Defense Environmental Restoration Program Workshop 2001
Nov. 6-8, 2001
Corpus Christi, Texas
Registration deadline: Oct. 19, 2001
Register on-line at http://www.ttclients.com/derp

Partners in Environmental Technology Technical Symposium & Workshop sponsored by SERDP and ESTCP
Nov. 27-29, 2001
Washington, D.C.
E-mail: partners@hgl.com
Phone: 703.736.4548

Hard copy distribution printed on recycled paper